

RAS 15121

DOCKETED
USNRC

February 28, 2008 (8:00am)

February 27, 2008

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the matter of
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
Unit Nos. 1 and 2
Independent Spent Fuel Storage Installation

Docket # 72-26-ISFSI

**SAN LUIS OBISPO MOTHERS FOR PEACE'S
REQUEST FOR ADMISSION OF LATE-FILED CONTENTION 6
REGARDING DIABLO CANYON
ENVIRONMENTAL ASSESSMENT SUPPLEMENT**

I. INTRODUCTION AND SUMMARY

Pursuant to the U.S. Nuclear Regulatory Commission's ("NRC's" or "Commission's") Order in *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-01, __ NRC __, slip op. at 31 (January 15, 2008) ("CLI-08-01"), San Luis Obispo Mothers for Peace ("SLOMFP") hereby submits late-filed Contention 6 regarding the Final Supplement to the Environmental Assessment and Draft Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation (August 2007) ("Final EA Supplement").

Contention 6 is supported by the expert declaration of Dr. Gordon Thompson (Declaration of Dr. Gordon R. Thompson in Support of San Luis Obispo Mothers for Peace's Contention 6 (February 27, 2008)) and by Dr. Thompson's expert report, *Assessing Risks of Potential Malicious Actions at Commercial Nuclear Facilities: The Case of a Proposed Independent Spent Fuel Storage Installation at the Diablo Canyon Site* (June 27, 2007) ("Thompson Report"). A copy of Dr. Thompson's declaration is

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attached. Dr. Thompson's report and curriculum vitae were provided as attachments to San Luis Obispo Mothers for Peace's Contentions and Request for a Hearing Regarding Diablo Canyon Environmental Assessment Supplement (June 28, 2007; corrected June 29, 2007) ("Hearing Request").

As discussed below in Section III, Contention satisfies a balancing of the Commission's criteria for admission of late-filed contentions.

II. CONTENTION 6

Contention 6: Inappropriate reliance on the "Ease" indicator to exclude reasonably foreseeable and significant environmental impacts from the NRC's environmental analysis for the Diablo Canyon ISFSI

In preparing the Final EA Supplement, the NRC Staff violated the National Environmental Policy Act ("NEPA") and federal implementing regulations by excluding reasonably foreseeable threat scenarios from consideration, based on the use of an inappropriate indicator known as "Ease" as a proxy for the probability of a threat scenario. The excluded threat scenarios could cause significant adverse impacts by contaminating the environment. Therefore, the NRC Staff should have prepared an environmental impact statement ("EIS").

Basis:

The legal basis for this contention is the requirement of NEPA and NRC implementing regulations that the NRC must prepare an EIS to address significant environmental impacts on the human environment. 10 C.F.R. § 51.20(a)(1). Impacts that must be considered include low-probability environmental impacts with catastrophic consequences, if those impacts are reasonably foreseeable. 40 C.F.R. § 1502.22(b)(3).

The factual basis for this contention consists of information presented in unredacted portions of a classified document, issued by Sandia National Laboratories in 2004, entitled "NRC Spent Fuel Source Term Guidance Document" ("Sandia Study"). The Sandia Study is listed in the Final EA Supplement as Reference 8 (*see id.* at A-12), and it is also listed as "Document 3" in the NRC Staff's February 13, 2008, Vaughn Index. The documents produced by the Staff on February 13, 2008, in connection with its Vaughn Index, included a redacted version of the Sandia Study "with Appendices A-E."

It is reasonable to infer, from the facts that (a) the NRC has entitled the Sandia Study a "guidance document" and (b) the Final EA Supplement lists the Sandia Study as a reference document, that the NRC Staff relied on the guidance presented in the Sandia Study in preparing the EA Supplement.

At pages 133-134, the Sandia Study describes a quantitative indicator known as "Ease" that can be used in threat assessment, as a proxy for the probability of a threat scenario. The Sandia Study describes the function of "Ease" as follows:

For sabotage, it is not possible to calculate or even estimate a "probability" or "likelihood" of successful completion for each scenario (or even the likelihood of an attempt). Rather, a simple measure (called Ease) was developed to estimate how easy or difficult it is to complete an attack scenario.

Id. at 133. The Sandia Study defines "Ease" as $1/2$ raised to the power $\text{Time} + \text{Complexity} + \text{Technology}$, where those parameters have the values:

- Time (instant = 0; 30 minutes = 1; 60 minutes = 2; longer = 3)
- Complexity (1 step = 0; 2 steps = 1; 3 steps = 2; more than 3 steps = 3)
- Technology (low = 1; medium = 2; high = 3)

Given that definition, the highest value of "Ease" (for an instantaneous, 1-step attack, using low technology) would be 0.5 (1/2 raised to the power 1), while the lowest value of "Ease" (for an attack scenario lasting more than 60 minutes, with more than 3 steps, using high technology) would be 0.002 (1/2 raised to the power 9). For a particular threat scenario, "Ease" would have a value in that range, depending upon the values that were assumed for the parameters, Time, Complexity, and Technology. The more time-consuming, complex, and technologically demanding a scenario is, the lower its "Ease" value. From the discussion at page 133 of the Sandia Study, it appears that the Staff used the "Ease" indicator as a substitute for determining the "probability" or "likelihood" of an attack. Sandia Report at 133.

Based on the inclusion of the Sandia Study as a reference document for the Final EA Supplement, one can reasonably infer that the Staff used the "Ease" indicator to exclude some threat scenarios from consideration in the EA. But use of the "Ease" indicator as a proxy for the probability of a threat scenario is inappropriate, and reveals a fundamental misunderstanding by the NRC Staff of the potential for attack on nuclear facilities in the U.S. As explained in the Thompson Report, U.S. nuclear facilities are especially attractive targets for attack by sub-national groups that are comparatively sophisticated in their approach, and comparatively well provided with funds and skills. *Id.* at 14-17. A group of that type could choose to attack a U.S. nuclear facility for one or both of two reasons. First, the attack could be highly symbolic, functioning as an asymmetric response to U.S. military predominance. Second, the attack could lead to severe radiological impacts, including making large areas of land uninhabitable for a period of decades. A sophisticated, well-endowed group, mindful of those reasons, could

select a nuclear facility as a target even though other targets would be much easier to attack.

A sophisticated, well-endowed group with the goals described above would be likely to devote considerable time and resources to preparing for its attack on a nuclear facility, and could employ an attack plan featuring at least the following three elements. First, the attack, including pre-positioning of assets and diversionary actions, could unfold over a period of more than 60 minutes. Second, the attack could involve more than three steps. Third, the attack could involve selective use of high technology, such as global positioning system ("GPS") receivers and night-vision devices. That attack would be scored at the lowest level of "Ease" as defined in the Sandia Study. Yet, an attack of that type on the Diablo Canyon ISFSI would be technically credible and reasonably foreseeable. *See* Thompson Report at 33 - 37. By excluding sophisticated, time-consuming, and technologically advanced attacks from consideration in the Final EA Supplement, the NRC Staff has failed to consider the full range of reasonably foreseeable impacts of operating the Diablo Canyon ISFSI.

III. CONTENTION 6 SATISFIES A BALANCING OF THE NRC'S LATE-FILED CONTENTION CRITERIA.

Contention 6 satisfies a balancing of the NRC's late-filed contention criteria in 10 C.F.R. § 2.714(a). SLOMFP satisfies the first and most important factor -- good cause -- because it is filing the contention within fourteen days of discovering the existence of the Ease factor in the Sandia Study. *See* CLI-08-01, slip op. at 31. The information in the Sandia Study cannot be found in the Final EA Supplement.

Second, SLOMFP has no means other than this proceeding to vindicate its interest in requiring the NRC to fully comply with NEPA in considering the environmental impacts of intentional attacks on the Diablo Canyon ISFSI.

Third, SLOMFP's participation may reasonably be expected to assist in the development of a sound record. SLOMFP is assisted by experienced counsel and Dr. Thompson, a qualified expert on risk assessment and nuclear security issues who has prepared an expert report regarding the deficiencies of the Final EA Supplement and a declaration in support of Contention 6, and who is prepared to testify regarding Contention 6.

Finally, SLOMFP anticipates that its participation in this proceeding will broaden and delay the proceeding. Nevertheless, as stated in SLOMFP's initial Hearing Request, it is not appropriate for the Commission to give any weight to this factor, because SLOMFP has done nothing to cause any delay or 11th hour broadening of the proceeding. SLOMFP has sought compliance by the NRC with NEPA's requirement to consider the environmental impacts of attacks on the Diablo Canyon ISFSI since the proceeding began over five years ago. Any delay is attributable to the intransigence of the NRC and PG&E, not to SLOMFP. Hearing Request at 18.

IV. CONCLUSION

For the foregoing reasons, Contention 6 should be admitted.

Respectfully submitted,



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February 27, 2008

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of: :
: :
PACIFIC GAS & ELECTRIC CO. : Docket No. 72-26 - ISFSI
(Diablo Canyon Nuclear Power Plant :
Unit Nos. 1 and 2) :

**DECLARATION OF DR. GORDON R. THOMPSON
IN SUPPORT OF SAN LUIS OBISPO MOTHERS FOR PEACE'S
CONTENTION 6**

Under penalty of perjury, I, Gordon R. Thompson, declare as follows:

1. I am the executive director of the Institute for Resource and Security Studies (IRSS), a nonprofit, tax-exempt corporation based in Massachusetts. Our office is located at 27 Ellsworth Avenue, Cambridge, MA 02139.
2. On June 27, 2007, I submitted a declaration and expert report in this proceeding, in support of San Luis Obispo Mothers for Peace's (SLOMFP's) Contentions and Request for a Hearing Regarding Diablo Canyon Environmental Assessment Supplement (June 28, 2007; corrected June 29, 2007). My report is entitled "Assessing Risks of Potential Malicious Actions at Commercial Nuclear Facilities: the Case of a Proposed Independent Spent Fuel Storage Installation at the Diablo Canyon Site."
3. The representations made in my June 27, 2007, declaration continue to be correct.
4. I have reviewed the Vaughn Index and associated documents submitted by the U.S. Nuclear Regulatory Commission ("NRC") Staff in this proceeding on February 13, 2008.
5. I assisted SLOMFP in the preparation of Contention 6, which challenges the adequacy of the NRC Staff's Final Supplement to the Environmental Assessment and Draft Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation (May 29, 2007) ("EA Supplement").
6. The factual statements of fact in SLOMFP's Contention 6 are true and correct to the best of my knowledge, and the technical opinions set forth therein are based on my best

professional judgment.

7. I am prepared to testify as an expert witness on behalf of SLOMFP with respect to the facts and opinions set forth in SLOMFP's Contention 6.

A handwritten signature in cursive script that reads "G.R. Thompson". The signature is written in black ink and is positioned above a horizontal line.

Gordon R. Thompson, D.Phil

February 27, 2008

CERTIFICATE OF SERVICE

I certify that on February 27, 2008, copies of San Luis Obispo Mothers for Peace's Request for Admission of Late-Filed Contention 6 Regarding Diablo Canyon Environmental Assessment Supplement were served on the following persons by e-mail and first-class mail:

<p>Office of the Secretary (original and two copies) Rules and Adjudications Branch U.S. Nuclear Regulatory Commission 11555 Rockville Pike Rockville, MD 20852 Also by e-mail to: hearingdocket@nrc.gov</p>	<p>William V. Manheim, Esq. Jennifer Post Pacific Gas & Electric Co. 77 Beale Street B30A San Francisco, CA 94105 Also by e-mail to: AxFn@pge.com; JLKm@pge.com</p>
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